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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,736	11/17/2003	Simon Booth	03-0798 1496.00336	4651
24319	7590	10/22/2007		
LSI CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			EXAMINER SENF, BEHROOZ M	
			ART UNIT 2621	PAPER NUMBER
			MAIL DATE 10/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/714,736	Applicant(s) BOOTH ET AL.	
	Examiner Behrooz Senfi	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda (US 5,719,630) in view of Adiletta et al (US 6,101,276).

Regarding claim 1, Senda '630 teaches, an apparatus comprising; a first circuit configured to generate a control signal in response to a measurement of inter-picture motion between a current picture and a first reference picture (i.e. fig. 10, elements 71 – 74) and a second circuit configured to select between the first reference picture and a second reference picture as a better reference picture for motion estimation in response to the control signal (i.e. fig. 10, elements 75, 76 to 68).

Senda is silent in regards to explicit of, predetermined threshold.

Adiletta teaches the predetermined threshold (i.e., col. 15, lines 5 – 25, indicating the use of predetermined threshold for comparing the difference between the image blocks).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to improve Senda's moving picture coding in accordance with the teaching of Adiletta by using a predetermined threshold provide

improved picture characterization for encoding, as suggested by Adiletta (col. 21, lines 25 – 35).

Regarding claims 2 and 14, the combination of Senda '630 and Adiletta '276 teaches, wherein; a parity of the first reference picture is opposite to a parity of the current picture (i.e. fig. 10, element 72 of Senda) and a parity of the second reference picture is the same as the parity of the current picture (i.e. fig. 10, element 71 of Senda).

Regarding claims 3 and 15, the combination of Senda '630 and Adiletta '276 teaches, a parity of the first reference picture is the same as a parity of the current picture (i.e. fig. 10, element 71 of Senda) and a parity of the second reference picture is opposite to the parity of the current picture (i.e. fig. 10, element 72 of Senda).

Regarding claims 4 and 16, the combination of Senda '630 and Adiletta '276 teaches, memory configured to store the current picture, the first reference picture and the second reference picture (i.e. fig. 1, memory 25 of Senda).

Regarding claim 5, the combination of Senda '630 and Adiletta '276 teaches, multiplexer circuit configured to select between the first reference picture and the second reference picture (i.e. fig. 10, selector 75 of Senda).

Regarding claims 6 and 17, the combination of Senda '630 and Adiletta '276 teaches, motion estimation circuit configured to generate one or more motion vectors in response to the better reference picture and the current picture (i.e. figs. 9 – 10, MVs of Senda).

Regarding claims 7 and 18, the combination of Senda '630 and Adiletta '276 teaches, a circuit configured to generate a plurality of coarse motion vectors for said

current picture based upon said first reference picture (fig. Fig. 11, element 26, col. 5, lines 60 – 67 of Senda).

Regarding claims 8 and 19, the combination of Senda '630 and Adiletta '276 teaches, wherein the first circuit further comprises: a first analysis circuit configured to generate a measurement of inter-picture motion in response to the coarse motion vectors (i.e. fig. 11, element 26 of Senda).

Regarding claims 9 and 20, the combination of Senda '630 and Adiletta '276 teaches, a second analysis circuit configured to generate the control signal in response to said measurement of inter-picture motion (i.e. fig. 11, element 27 of Senda).

Regarding claim 11, the combination of Senda '630 and Adiletta '276 teaches, apparatus is part of an encoder circuit (i.e. fig. 11 of Senda).

Regarding claims 12 – 13, the limitations claimed have been analyzed and rejected with respect to claim 1 above.

Regarding claim 22, the combination of Senda '630 and Adiletta '276 teaches, field picture (i.e. fig. 5, col. 1, lines 30 – 33 of Senda).

Regarding claims 10 and 21, the combination of Senda '630 and Adiletta '276 teaches, performing a cluster analysis, for motion vectors (i.e. col. 21, lines 25 – 35 of Adiletta).

3. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Senda (US 5,719,630) in view of Adiletta et al (US 6,101,276) and further in view of Mauro, II et al. (US 7,039,246).

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Regarding claim 23, the combination of Senda '630 and Adiletta '276 is silent in regards to explicit of, programmable threshold.

Mauro teaches the programmable threshold (i.e., col. 3, lines 28 – 47).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to improve Senda's moving picture coding in accordance with the teaching of Mauro by using a programmable threshold to improve encoding techniques, as suggested by Mauro (col. 2, lines 8 - 11).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Behrooz Senfi whose telephone number is 571-272-7339. The examiner can normally be reached on M-F 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Behrooz Senfi
Examiner
Art Unit 2621

A handwritten signature in black ink, consisting of a large, stylized loop followed by a few smaller strokes, ending in a long, sweeping horizontal line that extends to the right.